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U.S. Department of Agriculture



Farmer Cooperative Service

# **MOTORTRUCKS OPERATED BY FARMER COOPERATIVES**

**NUMBER, TYPES, AND  
OPERATING CHARACTERISTICS,  
JANUARY 1, 1967**

Farmer Cooperative Service  
U.S. Department of Agriculture  
Washington, D.C. 20250

Farmer Cooperative Service conducts research; advises directly with cooperative leaders and others; promotes cooperative organization and development through other Federal and State agencies; and publishes results of its research, issues News for Farmer Cooperatives, and other education material.

This work is aimed (1) to help farmers get better prices for their products and reduce operating expenses, (2) to help rural and small-town residents use cooperatives to develop rural resources, (3) to help these cooperatives expand their services and operate more efficiently, and (4) to help all Americans understand the work of these cooperatives.

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## Highlights

The 8,593 farmer marketing, purchasing, and service cooperatives in the United States owned or leased an estimated 37,000 motortrucks as of January 1, 1967—an average of 4.3 trucks per association. Compared with an estimated 33,000 trucks on January 1, 1961, the number of trucks operated by farmer cooperatives increased about 12 percent during the past 6 years. In comparison, total U.S. truck registrations were 15.5 million in 1966, an increase of 30 percent over the 1960 total of 11.9 million. Cooperative trucks as a percentage of total registered U.S. trucks declined from 0.3 percent in 1960 to 0.2 percent in 1966.

This report gives the results of a study on the number, type, and distribution of motortrucks owned or leased by farmer cooperatives in the United States. The study was based on responses to a questionnaire that was sent to cooperatives.

Of the 5,349 cooperative associations returning usable questionnaires, 54 percent reported that they owned or leased trucks. Marketing cooperatives accounted for 55 percent of all trucks. Purchasing cooperatives operated most of the remaining trucks; service cooperatives operated less than 1 percent of the rest. Dairy marketing cooperatives accounted for about a third of the trucks reported by all associations.

Co-ops reported that 26 percent of the truck units were van-type straight trucks; 17 percent, straight tank; 45 percent, "other" straight trucks; only 12 percent were tractors. Co-ops reported nearly 5,400 trailers and semitrailers. Marketing co-ops owned or leased 59 percent of this total; purchasing co-ops, 37 percent; and service co-ops, 4 percent.

Of all straight trucks reported, 23 percent were 7,999 pounds or under in gross vehicle weight, 64 percent were 8,000 to 25,999 pounds, and only 13 percent were 26,000 pounds and over.

Co-ops owned by far the majority of the motortrucks, trailers, and semitrailers they operated. Only 5 percent of the straight trucks operated were leased, compared with 17 and 16 percent, respectively, for tractors and semitrailers.

Cooperative truck mileage as a percentage of total miles traveled by all trucks in the United States declined from 0.5 percent in 1960 to 0.4 percent in 1966. Truck mileage of all farmer co-ops in 1966 was estimated at 780 million miles for both intrastate and interstate trucking. This is less than half of 1 percent of the estimated U.S. total of 173.9 billion truck miles over both rural and urban roads.

One-fourth of the farmer co-ops operating trucks did some interstate hauling, but only 15 percent of the total truck mileage reported by all co-ops was interstate. Thus, the great majority of their truck operations are intrastate.

About 44 percent of farmer co-ops with interstate hauling reported backhauls, and such backhaul trips accounted for 21 percent of their total trips. Of these backhauls, 89 percent consisted of the co-ops' own or members' goods. Of the remaining 11 percent, 8.5 percent were exempt agricultural commodities, and all other goods made up only 2.5 percent.

# Motortrucks Operated by Farmer Cooperatives

## Number, Types, and Operating Characteristics,

January 1, 1967

By

Thomas H. Camp\*

*Farm Supplies Division*

and

William M. Holroyd

*Cooperative Appraisal Division*

Motortrucks perform a very important role in the overall transportation of agricultural products in the United States: They transport almost all agricultural commodities to initial markets. And motortrucks move a large proportion of the supplies farmers require in producing these commodities.

Farmer cooperatives use their trucks to provide this small but necessary service to their farmer-members and patrons in transporting agricultural commodities and supplies.

Information on farmer cooperatives' trucking operations provides a basis for esti-

imating the significance of private motortruck operations in the general agricultural community. This, in turn, contributes to the information needed by the U.S. Department of Agriculture and other U.S. Government agencies in planning public transportation policy, including planning for civil defense transportation.

The Marketing and Research Advisory Committee to the U.S. Department of Agriculture recognized the need for updated information on changes in transport services by farmer cooperatives. The Farmer Cooperative Service made this study in response to the Committee's recommendation.

This report primarily presents a general inventory of motortrucks that U.S. farmer cooperatives own and lease, by type of cooperative, size and type of vehicle, and geographic location.

## Method Of Study

Questionnaires were sent to all farmer marketing, purchasing, and service cooperatives on the FCS mailing list. These included 8,593 local and regional cooperatives; actual mailings totaled 8,117, since several regional cooperatives, in replying to other questionnaires, regularly include data for their local member associations.

About 66 percent, or 5,349 associations, returned usable questionnaires. Of these, 54 percent (2,913 associations) reported owned or leased motortrucks. The estimated number of cooperatives in the United States, number and percentage reporting trucks, total number of trucks, and average number of trucks per cooperative, in different geographic regions on January 1, 1967, are given in appendix table A-1.

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\* Now with Transportation and Facilities Research Division, Agricultural Research Service, USDA.

Returns of the questionnaires by regions ranged from 38 percent for the Middle Atlantic region to 83 percent for the Pacific region. Returns of questionnaires by type of association show a narrower range. Seventy-four percent of the service cooperatives responded to the questionnaire, compared with 71 percent of marketing and 58 percent of purchasing co-ops (table 1). Only 31 percent of the

service co-ops operated trucks, however, compared with 74 percent for purchasing and 46 percent for marketing associations.

Of the marketing associations, livestock and wool were low in the percentage of respondents operating trucks, with 11 percent, while more than half of the poultry, grain, and dairy cooperatives operated trucks.

Table 1.—Number of questionnaires mailed, respondents and percent response, and number and percent of cooperatives operating motortrucks, by types of cooperative, January 1, 1967

Type of cooperative <sup>1</sup>	Questionnaires			Responding cooperatives operating motortrucks	
	Mailed	Respondents <sup>2</sup>	Response		
	<i>Number</i>		<i>Percent</i>	<i>Number</i>	<i>Percent</i>
Marketing:					
Cotton	532	363	68	162	45
Dairy	1,137	840	74	447	53
Fruit and vegetable	510	385	75	136	35
Grain	1,930	1,317	68	722	55
Livestock and wool	512	330	64	36	11
Poultry	76	62	82	41	66
Miscellaneous <sup>3</sup>	<u>243</u>	<u>187</u>	<u>77</u>	<u>50</u>	<u>27</u>
Total or average	4,940	3,484	71	1,594	46
Purchasing <sup>4</sup>	3,007	1,740	58	1,280	74
Service <sup>5</sup>	<u>170</u>	<u>125</u>	<u>74</u>	<u>39</u>	<u>31</u>
All types	8,117	5,349	66	2,913	54

<sup>1</sup> Based on the predominant business of the co-op. Many marketing co-ops also purchase supplies and provide services for members, and many purchasing co-ops also market products and provide services for members.

<sup>2</sup> Represents usable returned questionnaires included in main tabulation.

<sup>3</sup> Includes sugar products, forest products, rice, tobacco, fur pelts, hay, hops, nursery stock, tung oil, coffee, nuts, and other farm products not separately classified.

<sup>4</sup> Includes co-ops purchasing feed, seed, fertilizer, petroleum, and other farm supplies and equipment for farmers.

<sup>5</sup> Includes co-ops furnishing special marketing or related services, such as cold storage lockers, trucking, warehousing, and seed cleaning.

## Trucks Owned Or Leased<sup>1</sup>

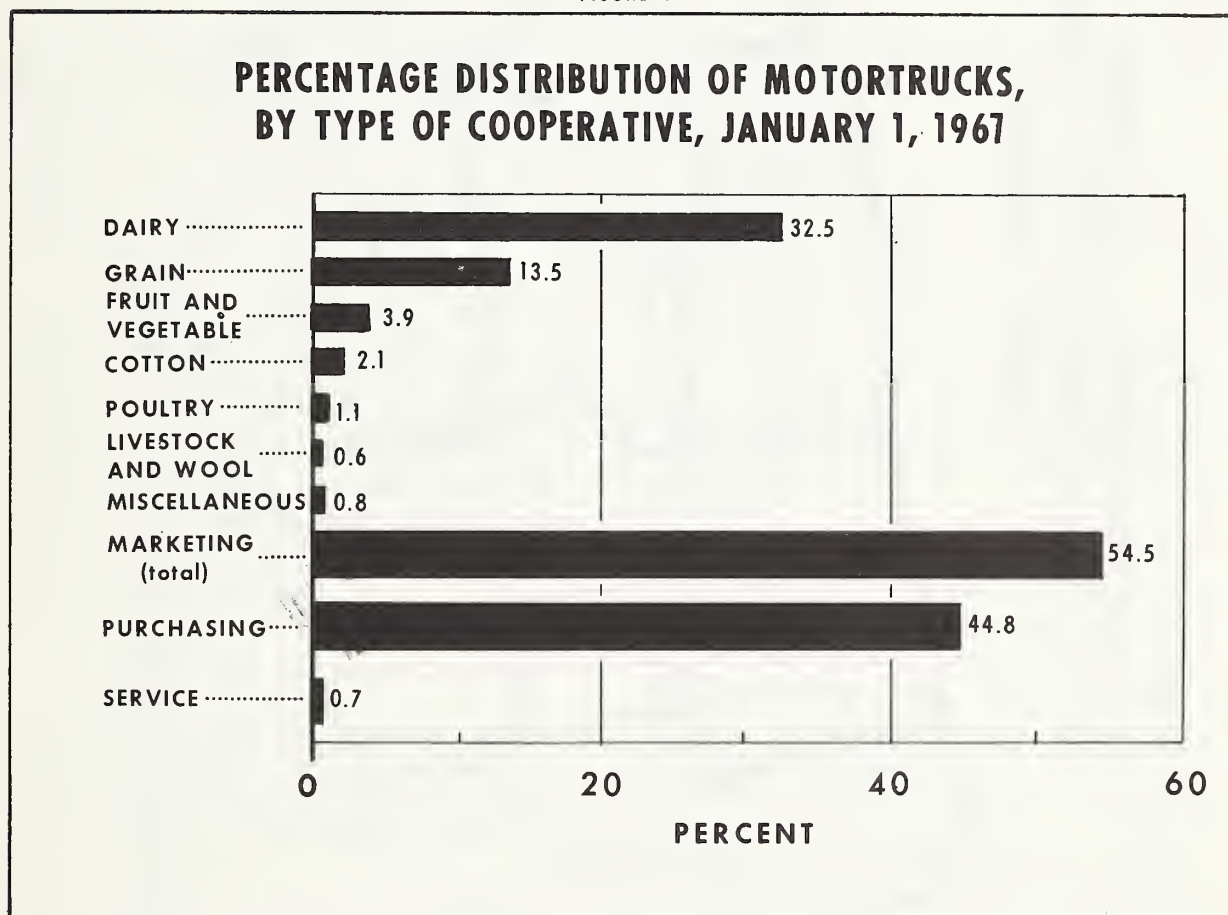
The total number of trucks farmer cooperatives owned or leased was estimated at 37,000 as of January 1, 1967.<sup>2</sup> This figure represents an average of 4.3 trucks per co-op, based on the total of 8,593 associations in the United States.

According to a previous study, the number of trucks owned or leased was estimated at 33,000 as of January 1, 1961.<sup>3</sup> Thus, the estimated number of co-op trucks increased

12 percent from 1960 to 1966. In comparison, total truck registrations for the United States increased from 11.9 million in 1960 to 15.5 million in 1966, or 30 percent. The percentage that co-op trucks was of total trucks registered in the United States declined from 0.3 in 1960 to 0.2 percent in 1966.

The percentage distribution of motor-trucks owned or leased, by type of cooperative, is shown in figure 1. Marketing associa-

FIGURE 1



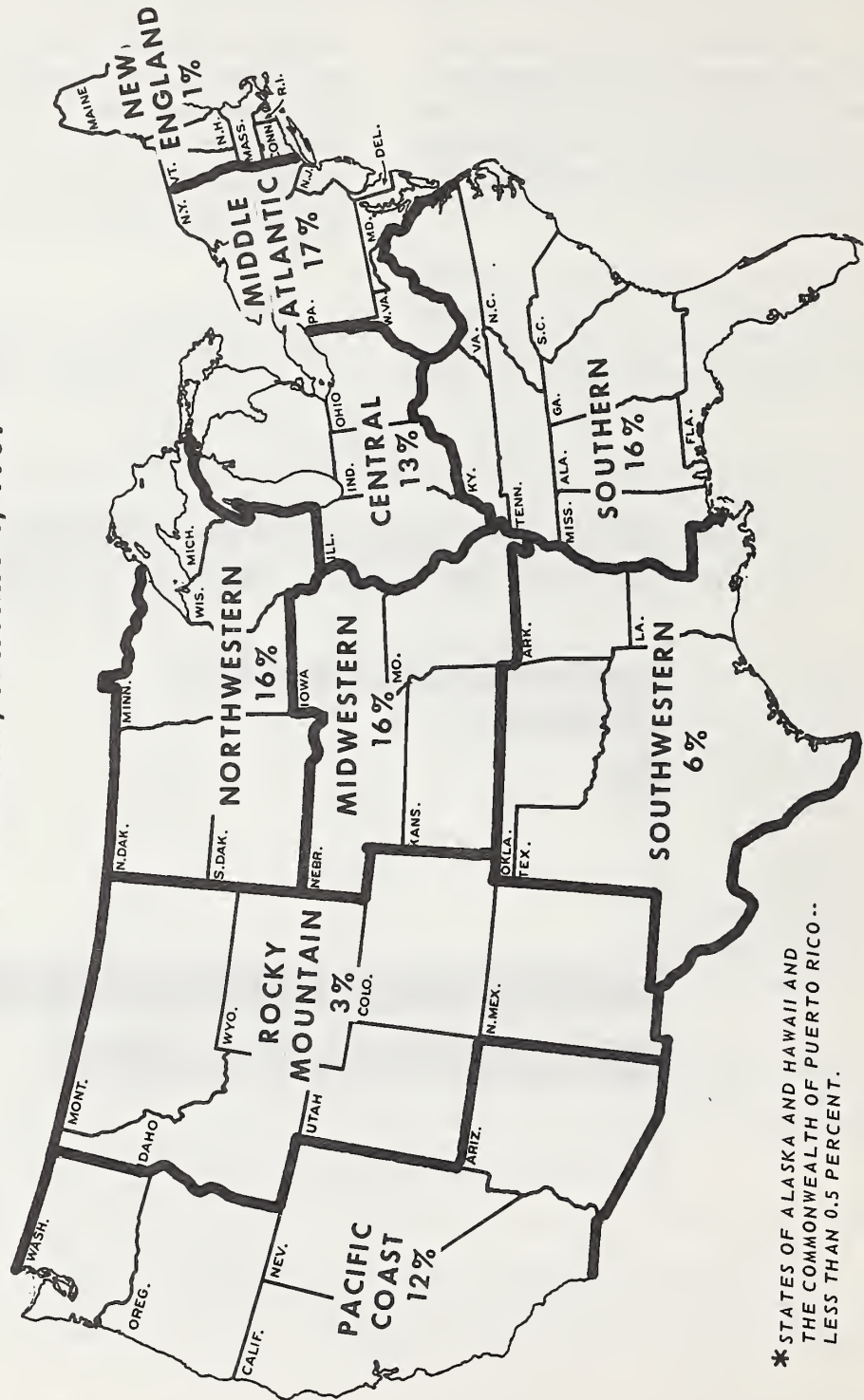
<sup>1</sup> The term "trucks," in this report, refers only to power units owned or leased by cooperatives.

<sup>2</sup> Trucks reported were classified by type and size of cooperative. A projection, based on these factors, was then applied to the 8,593 cooperatives on record in FCS, to obtain the estimate.

<sup>3</sup> Bowser, William C., *Motortruck Operations of Farmer Cooperatives*. U.S. Dept. Agr., Farmer Cooperative Serv., Gen. Rpt. 109. 23 pp. Feb. 1963.

FIGURE 2

**PERCENTAGE DISTRIBUTION OF MOTORTRUCKS OWNED OR LEASED  
BY FARMER COOPERATIVES IN THE UNITED STATES,  
BY REGIONS, JANUARY 1, 1967\***



\* STATES OF ALASKA AND HAWAII AND THE COMMONWEALTH OF PUERTO RICO... LESS THAN 0.5 PERCENT.

tions accounted for 55 percent of all trucks, with most of the rest operated by purchasing associations. Dairy co-ops led the marketing group with 33 percent of trucks, followed by grain co-ops with 14 percent, and fruit and vegetable co-ops with 4 percent.<sup>4</sup>

Figure 2 shows the regional distribution of trucks owned or leased. The regions are the same as those used by the Interstate Commerce Commission for the continental United

States. Noncontiguous areas include the States of Alaska and Hawaii and the Commonwealth of Puerto Rico.

Over three-fourths of the trucks operated by farmer co-ops are located in five regions of the country: Middle Atlantic (17 percent), Northwestern (16 percent), Midwestern (16 percent), Southern (16 percent), and Central (13 percent).

## Types And Sizes Of Trucks

The following types of trucks and equipment were owned or leased by cooperatives as of January 1, 1967: (1) Straight trucks with van bodies, tank bodies, and other types of bodies; (2) truck tractors; and (3) truck trailers and semitrailers with van, tank, and other types of bodies.

Data on size of straight trucks were gross vehicle weight (defined in the questionnaire as "empty weight of vehicle, plus the load it was designed to carry") broken down into three weight categories: Up to 7,999 pounds, 8,000 to 25,999 pounds, and 26,000 pounds and over. The co-ops also were requested to show whether the equipment was owned or leased for all weight categories.

### Types of Trucks, Owned or Leased

For all cooperatives, 26 percent of the trucks were straight trucks with van bodies, 17 percent were straight with tank bodies, and 45 percent were straight trucks with

other types of bodies (table 2). Only 12 percent of the total power units were truck tractors.

It is significant that 88 percent of the trucks were straight trucks. This demonstrates the relatively short-haul nature of most operations of farmer cooperatives.

Of significance also is the high proportion—62 percent—of straight trucks with bodies other than van type. This indicates the importance of "specialized" hauling equipment for co-ops.

More than a third of the marketing co-ops' trucks were straight trucks with van bodies, and half were straight trucks with tank and other types of bodies. On the other hand, purchasing co-ops operated a higher percentage of straight trucks with tank bodies and with bodies other than van or tank. Their tank trucks were used mainly for distributing petroleum to farms.<sup>5</sup> They had a variety of other types of trucks for delivering supplies, spreading fertilizer, and performing other

<sup>4</sup> The extensive use of delivery trucks in the retail distribution of fluid milk is partly responsible for the large number of trucks operated by dairy co-ops. However, dairy cooperatives also use tank transports in interplant hauling and wholesale distribution operations. For more detailed information on truck operations of dairy co-ops, see Gessner, Anne L., *Integrated Dairy Operations Through Farmer Cooperatives*, U.S. Dept. Agr. Farmer Cooperative Serv. Gen. Rpt. 69, pp. 37-39, 1959.

<sup>5</sup> Gessner, Anne L. and Mather, J. Warren. *Integrated Petroleum Operations Through Farmer Cooperatives*, U.S. Dept. Agr. 1959. Farmer Cooperative Serv. Gen. Rpt. 58. A more detailed analysis of the use of tank trucks, including those owned by commission salesmen, in petroleum operations of farmer cooperatives is given in this report.

Table 2.—Number of trucks reported and percentage distribution of types of motortrucks, by type of cooperative, January 1, 1967<sup>1</sup>

Type of cooperative	Trucks reported	Percentage distribution of –				
		Straight trucks			Truck tractors	Total trucks
		Van	Tank	Other		
	<i>Number</i>	<i>Percent</i>				
Marketing:						
Cotton	643	3	3	44	50	100
Dairy	9,934	58	12	19	11	100
Fruit and vegetable	1,182	12	1	61	26	100
Grain	4,135	3	16	74	7	100
Livestock and wool	200	19	8	56	17	100
Poultry	332	45	3	35	17	100
Miscellaneous	<u>250</u>	<u>5</u>	<u>4</u>	<u>51</u>	<u>40</u>	<u>100</u>
Total or average	16,676	37	11	39	13	100
Purchasing	13,712	12	24	55	9	100
Service	<u>205</u>	<u>8</u>	<u>21</u>	<u>5</u>	<u>66</u>	<u>100</u>
All types	30,593	26	17	45	12	100

<sup>1</sup> As reported by 5,349 cooperatives, of which 2,913 owned or leased trucks.

services. Although they were few, 66 percent of the trucks operated by service co-ops were truck tractors.

A breakdown of the marketing cooperatives shows a considerable variation in the truck fleet makeup by type of association activity. Dairy and poultry co-ops mostly used straight trucks with van bodies, while grain, fruit and vegetable, livestock and wool, and miscellaneous co-ops operated higher percentages of straight trucks with bodies other than tank or van. The relatively high percentage of straight tank trucks reported by grain co-ops was attributed to their petroleum and bulk feed distributing activities.

Tractors made up 50 percent of the trucks operated by cotton cooperatives. Many of these were used in hauling cottonseed and bales from gins to oil mills and compresses.<sup>6</sup>

<sup>6</sup> Thompson, William H. Transportation Factors in Marketing Soybeans, Cottonseed, and Their Products, 16 Selected Cooperatives. U.S. Dept. Agr. Farmer Cooperative Serv. Gen. Rpt. 145. Sept. 1967.

### Trailers and Semitrailers

Of the trailers and semitrailers owned or leased by farmer cooperatives reporting, 59 percent were operated by marketing associations and most of the remainder by purchasing associations. Dairy co-ops accounted for about half the marketing total, mostly van and tank-type units (table 3).

Of the trailers and semitrailers operated by marketing co-ops, 44 percent were other than van or tank, 29 percent were tank, and 27 percent were van. Van-type trailers and semitrailers made up 42 percent of the units owned or leased by purchasing cooperatives. However, 55 percent of the service co-ops used van units.

Distribution of trailers and semitrailers by type of unit was fairly even for all types of co-ops as of January 1, 1967 (table 4). Semitrailers were more popular than trailers. Trailers comprised 18 percent of service co-ops' trailer and semitrailer fleets compared

Table 3.—Number and percentage distribution of trailers and semitrailers, by type of cooperative and type of equipment, January 1, 1967<sup>1</sup>

Type of cooperative	Number of trailers and semitrailers	Percentage distribution of trailers and semitrailers by—							
		Type of cooperative				Type of equipment			
		Van	Tank	Other	Total	Van	Tank	Other	Total
	<i>Number</i>	<i>Percent</i>							
Marketing:									
Cotton	343	2	(2)	17	6	10	2	88	100
Dairy	1,535	34	44	8	29	40	51	9	100
Fruit and vegetable	733	5	1	35	14	12	2	86	100
Grain	338	3	6	11	6	13	29	58	100
Livestock and wool	29	1	(2)	(2)	1	62	21	17	100
Poultry	81	3	(2)	1	1	67	1	32	100
Miscellaneous	119	(2)	1	5	2	7	8	85	100
Total or average	3,178	48	52	77	59	27	29	44	100
Purchasing	2,004	46	44	22	37	42	39	19	100
Service	183	6	4	1	4	55	37	8	100
All types	5,365	100	100	100	100	33	33	34	100

<sup>1</sup> Based on data reported by 5,349 cooperatives, of which 2,913 owned or leased trucks, and 691 owned or leased trailers and semitrailers.

<sup>2</sup> Less than 0.5 percent.

Table 4.—Percentage distribution of trailers and semitrailers, by general type of cooperative, January 1, 1967

Type of cooperative	Percentage distribution by kind of trailer		
	Trailers	Semitrailers	Total
	<i>Percent</i>		
Marketing	25	75	100
Purchasing	31	69	100
Service	18	82	100
Average	27	73	100

with none in 1961 as co-ops reported in the previous study.

### Size of Trucks

Table 5 shows the percentage distribution of cooperative trucks owned or leased, by gross vehicle weight and type of truck. Ap-

pendix tables A-2 and A-3 give more detailed information on types and sizes of trucks, as used by various types of co-ops.

Of all straight trucks reported, 64 percent were 8,000 to 25,999 pounds, 23 percent were 7,999 pounds and under, and only 13 percent were 26,000 pounds and over. Appendix table A-2 shows that 76 percent of the straight van trucks were 8,000 to 25,999 pounds.

Trucks operated by the various types of cooperatives differed considerably in size. However, all but one of the seven principal types of marketing co-ops had 50 percent or more of their trucks in the 8,000-to-25,999-pound category (table 6). As a group, 67 percent of the trucks of marketing co-ops were in that category. In comparison, 61 percent of the trucks operated by both purchasing and service co-ops were in the same category.

Table 5.—Percentage distribution of straight trucks operated by farmer cooperatives, by type of truck and gross vehicle weight, January 1, 1967<sup>1</sup>

Type of truck	Percentage distribution of straight trucks by gross vehicle weight of—			
	7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total
----- Percent -----				
Van	13	76	11	100
Tank	7	68	25	100
Other	<u>35</u>	<u>56</u>	<u>9</u>	<u>100</u>
Average	23	64	13	100

<sup>1</sup> Based on information from 5,349 farmer cooperatives of which 2,913 owned or leased trucks.

Table 6.—Percentage distribution of straight trucks operated by farmer cooperatives, by type of cooperative, and gross vehicle weight, January 1, 1967<sup>1</sup>

Type of cooperative	Gross vehicle weight of —			
	7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total
----- Percent -----				
Marketing:				
Cotton	28	53	19	100
Dairy	15	72	13	100
Fruit and vegetable	45	51	4	100
Grain	30	63	7	100
Livestock and wool	35	53	12	100
Poultry	27	56	17	100
Miscellaneous	<u>41</u>	<u>46</u>	<u>13</u>	<u>100</u>
Average	22	67	11	100
Purchasing	24	61	15	100
Service	<u>7</u>	<u>61</u>	<u>32</u>	<u>100</u>
All types, average	23	64	13	100

<sup>1</sup> Based on information from 5,349 farmer cooperatives, of which 2,913 owned or leased trucks.

## Owned Versus Leased Equipment

We obtained some information on the extent of motortruck leasing by farmer cooperatives. While the associations owned most of the equipment they operated, there were some significant differences in the percentage owned or leased by type of cooperative as well as by type of equipment operated.

As shown in table 7, farmer cooperatives leased only 5 percent of the straight trucks

they operated, compared with 17, 15, and 16 percent, respectively, for tractors, trailers, and semitrailers. Marketing cooperatives leased 20 percent of the tractors they operated, compared with 11 percent for purchasing cooperatives and 26 percent for service cooperatives. A more complete breakdown of leased versus owned equipment is given for straight trucks in appendix table A-4.

Table 7.—Percentage distribution of straight trucks, tractors, trailers, and semitrailers, owned or leased, by type of cooperative, January 1, 1967<sup>1</sup>

Type of cooperative	Percentage distribution by kind of truck											
	Straight trucks			Tractors			Trailers			Semitrailers		
	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased	Total
<i>----- Percent -----</i>												
Marketing												
Cotton	93	7	100	88	12	100	89	11	100	93	7	100
Dairy	95	5	100	84	16	100	92	8	100	84	16	100
Fruit and vegetable	84	16	100	77	23	100	95	5	100	71	29	100
Grain	97	3	100	73	27	100	88	12	100	76	24	100
Livestock and wool	87	13	100	74	26	100	100	0	100	83	17	100
Poultry	93	7	100	95	5	100	76	24	100	93	7	100
Miscellaneous	99	1	100	35	65	100	100	0	100	33	67	100
Average	95	5	100	80	20	100	92	8	100	79	21	100
Purchasing	95	5	100	89	11	100	77	23	100	93	7	100
Service	90	10	100	74	26	100	79	21	100	87	13	100
All types	95	5	100	83	17	100	85	15	100	84	16	100

<sup>1</sup> Based on information from 5,349 farmer cooperatives, of which 2,913 owned or leased trucks.

## Size Of Cooperative Truck Fleets

Forty-six percent of the cooperatives returning usable questionnaires reported that they did not own or lease any straight trucks or truck tractors. Seventeen percent reported

truck fleets of each of the following sizes: 1 or 2 trucks, 3 to 5 trucks, and 6 to 25 trucks. Only 3 percent of the cooperatives reported fleets of more than 25 trucks (table 8).

**Table 8.**—Number of cooperatives reporting motortrucks owned or leased, and percentage by type of cooperative and size of fleet, January 1, 1967<sup>1</sup>

Type of cooperative	Number reporting	Percentage of cooperatives with the following number of trucks:					
		None	1 or 2	3 to 5	6 to 25	Over 25	Total
	<i>Number</i>	<i>Percent</i>					
Marketing:							
Cotton	363	56	20	14	10	( <sup>2</sup> )	100
Dairy	840	46	18	14	14	8	100
Fruit and vegetable	385	65	17	7	8	3	100
Grain	1,317	45	18	20	16	1	100
Livestock and wool	330	89	5	2	4	0	100
Poultry	62	33	18	16	31	2	100
Miscellaneous	<u>187</u>	<u>74</u>	<u>14</u>	<u>6</u>	<u>5</u>	<u>1</u>	<u>100</u>
Total or average	3,484	53	17	14	13	3	100
Purchasing	1,740	27	19	25	27	2	100
Service	<u>125</u>	<u>68</u>	<u>18</u>	<u>6</u>	<u>6</u>	<u>2</u>	<u>100</u>
All types	5,349	46	17	17	17	3	100

<sup>1</sup> Based on information from 5,349 cooperatives of which 2,913 owned or leased trucks.

<sup>2</sup> Less than 0.5 percent.

Types of cooperatives reporting at least one truck varied considerably. While only about one-third of the service co-ops reported using trucks, almost one-half of the marketing co-ops and about three-fourths of the purchasing co-ops owned or leased some trucks.

Thirty-one percent of the marketing cooperatives operated 1 to 5 trucks, and 16 percent had more. Within the marketing group, poultry co-ops had the highest percentage of truck operation. Poultry and grain cooperatives were the only types with a larger percentage operating more than one or two trucks. Grain cooperatives had 20 percent in

the 3-to-5-unit range and poultry co-ops had 31 percent in the 6-to-25-unit range. More than half of the dairy, grain, and poultry co-ops operated trucks, while livestock and wool associations had the lowest percentage of truck ownership or leasing.

Only 24 percent of the 2,913 cooperatives operating trucks reported using trailers or semitrailers (table 9). Of these, slightly more than 50 percent operated only one or two. Cotton marketing cooperatives with 66 percent, and fruit and vegetable cooperatives with 44 percent, had the highest percentages of trailers and semitrailers among marketing cooperatives.

**Table 9.**—Number of cooperatives reporting trucks owned or leased, and percentage by size of trailer and semitrailer fleet and type of cooperative, January 1, 1967<sup>1</sup>

Type of cooperative	Number reporting trucks	Percentage of cooperatives using the following number of trailers & semitrailers					
		None	1 or 2	3 to 5	6 to 25	Over 25	Total
	<i>Number</i>	<i>Percent</i>					
<b>Marketing:</b>							
Cotton	162	34	34	25	6	1	100
Dairy	447	69	12	5	10	4	100
Fruit and vegetable	136	56	17	9	13	5	100
Grain	722	85	10	4	1	(2)	100
Livestock and wool	36	83	6	8	3	0	100
Poultry	41	73	10	10	5	2	100
Miscellaneous	50	76	10	10	0	4	100
Total or average	1,594	72	14	7	5	2	100
<b>Purchasing</b>	1,280	82	12	3	2	1	100
<b>Service</b>	39	36	31	13	15	5	100
<b>All types</b>	2,913	76	13	5	4	2	100

<sup>1</sup> Based on information from 5,349 cooperatives of which 2,913 owned or leased trucks and 663 owned or leased trailers and semitrailers.

<sup>2</sup> Less than 0.5 percent.

## Trucks, by Size of Cooperative

The percentages of total trucks owned or leased by the various types of cooperatives, and their annual dollar volumes of business, appear in table 10. Marketing co-ops with annual business volumes of \$1 million to \$5 million operated 30 percent of the trucks in marketing activities, while all co-ops in the \$75-million to-\$250-million category accounted for 12 percent of the trucks.

Trucks operated by marketing co-ops were more evenly distributed by size of business than were those of the purchasing associations. All service co-op trucks were operated by associations with a business volume of less than \$5 million.

Marketing cooperatives varied considerably in the percentage of trucks operated,

depending upon the size of business. Sixty-three percent of cotton co-op trucks were in the under-\$500,000 bracket. Similarly, livestock and wool, grain, and poultry co-ops had 38, 65, and 38 percent, respectively, of their trucks in the \$1-million-to-\$5-million bracket. Dairy cooperatives had 19 percent in the \$75-million-to-\$250-million category.

This study showed a relationship between dollar volume of cooperative business and the number of trucks operated (table 11). With few exceptions, the average number of trucks increased as the dollar volume of business increased. The average number of trucks per marketing co-op rose from three for co-ops with volumes of less than \$500,000 to 170 for volumes of \$250 million and over, while purchasing co-ops varied from three to 963 trucks, respectively, for the same categories.

Table 10.—Number of motortrucks and percentage distribution, by type of cooperative and annual dollar volume of business, January 1, 1967

Type of cooperative	Number of trucks <sup>1</sup>	Percentage distribution of motortrucks by cooperative dollar volume of —										Total
		Under \$500,000	\$500,000 up to \$1 million	\$1 million up to \$5 million	\$5 million up to \$10 million	\$10 million up to \$15 million	\$15 million up to \$25 million	\$25 million up to \$75 million	\$75 million up to \$250 million	\$250 million and over		
Marketing:		----- Percent -----										
	Number											
Cotton	643	63	21	7	1	0	0	1	7	0	100	
Dairy	9,934	3	4	16	9	13	15	18	19	3	100	
Fruit and vegetable	1,182	7	3	30	9	11	16	12	9	3	100	
Grain	4,135	3	10	65	9	2	4	0	4	3	100	
Livestock and wool	200	22	6	38	22	0	1	2	9	0	100	
Poultry	332	3	10	38	15	3	31	0	0	0	100	
Miscellaneous	250	36	20	40	0	(2)	0	3	1	0	100	
Total or average	16,676	6	7	30	9	9	11	12	13	3	100	
Purchasing	13,712	14	14	26	5	1	2	6	11	21	100	
Service	205	71	9	20	0	0	0	0	0	0	100	
All types	30,593	10	10	29	7	5	7	9	12	11	100	

<sup>1</sup> Based on data of 2,913 farmer cooperatives reporting both number of trucks, owned or leased, and dollar volume of business.<sup>2</sup> Less than 0.5 percent.

Table 11.—Average number of motortrucks per cooperative that reported using trucks, by type of cooperative and dollar volume of business, January 1, 1967<sup>1</sup>

Type of cooperative	Average for all co- opera- tives <sup>1</sup>	Average number of trucks per cooperative, by dollar volume of business of —								
		Under \$500,000	\$500,000 up to \$1 million	\$1 million up to \$5 million	\$5 million up to \$10 million	\$10 million up to \$15 million	\$15 million up to \$25 million	\$25 million up to \$75 million	\$75 million up to \$250 million	\$250 million and over
Marketing: ----- Number -----										
Cotton	4	3	5	4	3	0	0	5	43	0
Dairy	22	3	4	11	25	60	72	140	483	331
Fruit and vegetable	9	3	2	6	8	21	31	28	51	40
Grain	6	2	3	6	18	21	38	0	26	138
Livestock and wool	6	3	3	8	22	0	2	3	9	0
Poultry	8	2	5	7	10	5	52	0	0	0
Miscellaneous	5	7	4	5	0	1	0	3	2	0
Average	10	3	3	7	18	43	57	86	148	170
Purchasing	11	3	6	13	27	18	59	79	251	963
Service	5	4	19	40	0	0	0	0	0	0
All types	11	3	5	9	20	39	57	84	178	567

<sup>1</sup> Based on data of 2,913 farmer cooperatives reporting both number of trucks owned or leased, and dollar volume of business.

Overall, marketing co-ops that reported trucks averaged 10 trucks; purchasing, 11 trucks; and service, five trucks per association.

Of the marketing associations, dairy co-ops had the highest overall average number of trucks—22. Fruit and vegetable co-ops averaged nine trucks, and poultry cooperatives averaged eight trucks.

Some cooperatives with a \$25-million volume and over showed a substantial number of trucks per association because (1) some were regional centralized cooperatives with local branches or stores; and (2) several were regional federated cooperatives reporting for their local member associations which were under separate management or membership agreements but treated as one cooperative.

## Interstate Versus Intrastate Hauling

Total truck mileage reported by the 2,548 cooperatives replying to this question in full was 583 million miles for 1966 (table 12). Of this total 495.6 million miles, or 85 percent, were intrastate and the remaining 87.4 million miles, or 15 percent, were interstate.<sup>7</sup> This was the same proportion for purchasing co-ops as a group, while marketing co-ops reported 86 percent intrastate hauling and service co-ops 79 percent.

Truck mileage of all farmer cooperatives for 1966, based on the reported information, was estimated at 780 million miles for both intrastate and interstate trucking.<sup>8</sup>

Total U.S. truck mileage over both rural and urban roads was estimated by the U.S. Department of Transportation at 173.9 billion miles for 1966. Co-op truck mileage was 0.5 percent of total miles traveled by all trucks in the United States in 1960 and 0.4 percent in 1966.

Of the 2,548 co-ops reporting mileage data in 1966, 662 or about one-fourth had interstate operations (table 13). Eighteen percent of the 2,548 cooperatives reported less

than 25 percent of their truck mileage as interstate, 3 percent reported from 25 percent to 49 percent, 2 percent reported from 50 to 74 percent, and 2 percent reported that their interstate hauling accounted for 75 percent or more of their truck mileage.

Considering only the 662 cooperatives with interstate operations, 72 percent reported less than 25 percent of their truck mileage as interstate; 12 percent reported 25 percent to 49 percent interstate; 8 percent reported 50 to 74 percent interstate; and another 8 percent reported 75 percent and over as interstate.

Five percent of the marketing cooperatives reported 50 percent or more of their truck mileage as interstate; purchasing and service cooperatives reported 2 percent and 28 percent, respectively.

Thus, the great majority of cooperative trucking is intrastate—mostly local pickups and deliveries and primary movement from field to local concentration points.

### Mileage by Fleet Size

Intrastate and interstate truck mileages by type of cooperative and size of truck fleet are shown by percentages in table 12. About half of the intrastate mileage of marketing and

<sup>7</sup> Interstate was defined in the questionnaire as a movement between a point in one State to a point in another State. Intrastate was defined as a movement between points within one State.

<sup>8</sup> Based on a projection of average miles per truck by type of cooperative reporting.

Table 12.—Percentage of total truck mileage of cooperatives reporting intrastate and interstate, by type of cooperative and by size of fleet, January 1, 1967<sup>1</sup>

Type of cooperative	Total mileage	Percentage distribution by number of trucks and type of operation											
		1 or 2		3 to 5		6 to 25		26 to 100		Over 100		Total	
		Intra-state	Inter-state	Intra-state	Inter-state	Intra-state	Inter-state	Intra-state	Inter-state	Intra-state	Inter-state	Intra-state	Inter-state
Marketing: ----- Percent -----													
	1,000 miles												
Cotton	6,891	9	1	25	2	27	21	14	1	0	0	75	25
Dairy	206,702	3	(2)	5	1	17	4	19	4	41	6	85	15
Fruit and vegetable	19,481	4	1	5	1	26	6	52	5	0	0	87	13
Grain	66,821	5	1	23	2	55	5	3	(2)	6	(2)	92	8
Livestock and wool	3,493	9	(2)	12	1	61	16	0	0	1	0	83	17
Poultry	7,618	2	(2)	12	3	46	8	7	22	0	0	67	33
Miscellaneous	2,574	8	2	16	15	46	12	(2)	1	0	0	70	30
Total or average	313,580	4	(2)	10	1	28	4	16	5	28	4	86	14
Purchasing	254,655	3	(2)	9	(2)	30	2	7	2	36	11	85	15
Service	14,956	7	2	8	2	23	13	41	4	0	0	79	21
All types	583,191	3	(2)	9	1	29	4	13	3	31	7	85	15

<sup>1</sup> Based on information from 5,349 cooperatives of which 2,913 owned or leased trucks and 2,548 reported mileage data.

<sup>2</sup> Less than 0.5 percent.

Table 13.—Number and percentage distribution of cooperatives reporting mileage data and approximate percentages of their total truck miles that were interstate, 1966<sup>1</sup>

Type of cooperative	Number of cooperative reporting	Percentage of cooperatives reporting by percentage of interstate mileage of —					
		None	Less than 25	25 to 49	50 to 74	75 and over	Total
	<i>Number</i>	<i>Percent</i>					
Marketing:							
Cotton	139	88	7	1	2	2	100
Dairy	396	76	15	3	3	3	100
Fruit and vegetable	121	83	4	2	2	9	100
Grain	632	78	16	3	2	1	100
Livestock and wool	29	84	10	0	3	3	100
Poultry	34	58	21	6	9	6	100
Miscellaneous	46	70	15	2	4	9	100
Total or average	1,397	78	14	3	2	3	100
Purchasing	1,116	74	22	2	1	1	100
Service	35	52	17	3	17	11	100
All types	2,548	75	18	3	2	2	100

<sup>1</sup> Based on information from 5,349 farmer cooperatives of which 2,913 owned or leased trucks and 2,548 reported mileage data.

purchasing co-ops was by those having 26 or more trucks. Almost half of the intrastate mileage of dairy co-ops was by those with over 100 trucks.

Percentage distribution of intrastate and interstate mileage by size of truck fleet and geographic region is given in appendix table A-5. The regional variation or range for local mileage was from 65 percent for the Rocky Mountain region to 92 percent for the Central region—a spread of 27 percentage points. The fleet size of “over 100 trucks” registered the highest total percentage for both intrastate and interstate mileage with 31 and 7 percent, respectively.

### Backhaul Characteristics

Of the 2,548 cooperatives reporting mileage data, 662 reported interstate trips. Only 288 of these reported that they had return loads or backhauls for their interstate trips.<sup>9</sup> As shown in table 14, they had backhauls for only 53,233 trips or 21 percent of the total 252,116 trips that their 9,909 trucks made in

Table 14.—Number and percentage of total interstate trips (252,116) for which 288 cooperatives had backhauls, by type of backhaul, 1966

Type of backhaul	Backhauls <sup>1</sup>		
	Number of trips	Percentage of total interstate trips	Percentage of total backhaul trips
Own or member's goods	47,355	18.8	89.0
Exempt agricultural commodities <sup>2</sup>	4,551	1.8	8.5
All other	1,327	0.5	2.5
Total	53,233	21.1	100.0

<sup>1</sup> Backhauls were defined in the questionnaire as those moving in the opposite direction to the major haul.

<sup>2</sup> Other than those included in the cooperatives' own or members' goods.

1966. Of these backhauls, 89 percent consisted of the cooperatives' own or members' goods. Of the remaining 11 percent, 8.5 percent were exempt agricultural commodities<sup>10</sup> and all other goods made up only 2.5 percent.

<sup>9</sup> Return loads or backhauls were defined in the questionnaire as those moving in the opposite direction to the major haul.

<sup>10</sup> Other than those included in the cooperatives' own or members' goods.

## Appendix Tables

Table A-1.—Number of cooperatives, number and percentage reporting motortrucks, number of trucks, average trucks per cooperative, by geographic region, January 1, 1967

Geographic region	Cooperatives contacted <sup>1</sup>	Cooperatives reporting		Cooperatives reporting trucks		Total trucks <sup>2</sup>	Average trucks per cooperative <sup>3</sup>
	<i>Number</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Number</i>
New England	78	61	78	28	46	400	14
Middle Atlantic	700	265	38	78	29	5,211	67
Central	892	623	70	391	63	4,060	10
Southern	825	422	51	220	52	4,795	22
Northwestern	2,342	1,622	69	835	51	4,875	6
Midwestern	1,346	933	69	665	71	4,835	7
Southwestern	857	583	68	286	49	1,719	6
Rocky Mountain	452	323	71	162	50	975	6
Pacific	592	490	83	235	48	3,675	16
Noncontiguous	33	27	82	13	48	48	4
United States	8,117	5,349	66	2,913	54	30,593	11

<sup>1</sup> Number of cooperatives to whom questionnaires were mailed. Several regional cooperatives included in the survey, however, regularly report statistical information for their local member associations. Thus, there is a disparity between the total and the 8,593 listed by the History and Statistics Unit, FCS.

<sup>2</sup> Where cooperatives operated in more than 1 State, all their trucks were credited to the States where such co-ops were headquartered, rather than to the States where trucks were actually stationed. Trucks include straight trucks and tractors.

<sup>3</sup> Average trucks per cooperative reporting motortrucks.

Table A-2.—Percentage distribution by gross vehicle weight of types of straight trucks operated by various types of cooperatives, January 1, 1967<sup>1</sup>

Percentage distribution of straight trucks for each type of cooperative												
Type of cooperative	Van type, weighing --				Tank type, weighing --				Other type, weighing --			
	7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total	7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total	7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total
	----- Percent -----											
Marketing:												
Cotton	6	47	47	100	24	67	9	100	30	52	18	100
Dairy	13	82	5	100	3	41	56	100	30	61	9	100
Fruit and vegetable	14	78	8	100	0	100	0	100	52	45	3	100
Grain	17	73	10	100	12	81	7	100	35	58	7	100
Livestock and wool	38	30	32	100	6	94	0	100	39	54	7	100
Poultry	30	60	10	100	58	42	0	100	20	53	27	100
Miscellaneous	38	54	8	100	20	80	0	100	44	42	14	100
Average	13	81	6	100	7	56	37	100	35	57	8	100
Purchasing	12	55	33	100	7	74	19	100	35	56	9	100
Service	6	94	0	100	0	51	49	100	40	50	10	100
Total or average	13	76	11	100	7	68	25	100	35	56	9	100

<sup>1</sup> Based on data reported by 5,349 farmer cooperatives, of which 2,913 owned or leased motortrucks.

Table A-3.—Percentage distribution of truck types operated by various types of cooperative, by gross vehicle weight of truck, January 1, 1967<sup>1</sup>

Type of cooperative	All Truck tractors	Van type, weighing —				Tank type, weighing —				Other type, weighing —				Total straight trucks, weighing —			
		7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total	7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total	7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total	7,999 pounds and under	8,000 pounds to 25,999 pounds	26,000 pounds and over	Total
Marketing: ----- Percent -----																	
Cotton	9	(2)	(2)	1	(2)	1	(2)	(2)	1	2	2	4	2	1	1	2	1
Dairy	31	70	80	34	73	11	13	48	22	12	15	15	14	22	37	32	33
Fruit and vegetable	8	2	2	1	2	0	(2)	0	(2)	8	4	2	5	6	2	1	3
Grain	8	2	1	1	1	22	15	3	12	22	23	18	22	19	14	8	14
Livestock and wool	1	1	(2)	1	1	(2)	1	0	(2)	1	1	1	1	1	1	1	1
Poultry	1	4	2	2	2	2	(2)	0	(2)	(2)	1	3	1	1	1	1	1
Miscellaneous	3	1	(2)	(2)	(2)	1	(2)	0	(2)	1	1	1	1	1	(2)	1	1
Total	61	80	85	40	79	37	29	51	35	46	47	44	46	51	56	46	54
Purchasing	35	20	15	60	21	63	70	47	64	54	53	56	54	49	44	53	46
Service	4	(2)	(2)	0	(2)	0	1	2	1	(2)	(2)	(2)	(2)	(2)	(2)	1	(2)
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

<sup>1</sup> Based on data reported by 5,349 farmer cooperatives, of which 2,913 owned or leased motortrucks.

<sup>2</sup> Less than 0.5 percent.

Table A-4.—Percentage distribution of straight trucks, owned or leased, by type of truck and type of cooperative,  
January 1, 1967<sup>1</sup>

Type of cooperative	Van			Tank			Other			Total		
	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased	Total
<i>----- Percent -----</i>												
Marketing:												
Cotton	65	35	100	100	0	100	95	5	100	93	7	100
Dairy	96	4	100	89	11	100	99	1	100	95	5	100
Fruit and vegetable	71	29	100	100	0	100	86	14	100	84	16	100
Grain	93	7	100	97	3	100	98	2	100	97	3	100
Livestock and wool	97	3	100	71	29	100	86	14	100	87	13	100
Poultry	89	11	100	100	0	100	99	1	100	93	7	100
Miscellaneous	<u>85</u>	<u>15</u>	<u>100</u>	<u>100</u>	<u>0</u>	<u>100</u>	<u>100</u>	<u>0</u>	<u>100</u>	<u>99</u>	<u>1</u>	<u>100</u>
Average	95	5	100	92	8	100	96	4	100	95	5	100
Purchasing	94	6	100	92	8	100	97	3	100	95	5	100
Service	<u>100</u>	<u>0</u>	<u>100</u>	<u>84</u>	<u>16</u>	<u>100</u>	<u>100</u>	<u>0</u>	<u>100</u>	<u>90</u>	<u>10</u>	<u>100</u>
All types	95	5	100	92	8	100	97	3	100	95	5	100

<sup>1</sup> Based on data reported by 5,349 farmer cooperatives of which 2,913 owned or leased motortrucks.

Table A-5.—Percentage distribution of total truck mileage of cooperatives reporting intrastate and interstate mileage, by geographic region and by size of fleet, 1966<sup>1</sup>

Geographic region <sup>1</sup>	Total mileage	Percentage distribution of total truck mileage by number of trucks											
		1 or 2		3 to 5		6 to 25		26 to 100		Over 100		Total	
		Intra-state	Inter-state	Intra-state	Inter-state	Intra-state	Inter-state	Intra-state	Inter-state	Intra-state	Inter-state	Intra-state	Inter-state
<i>1,000 miles</i>													
New England	8,979	2	(2)	5	1	28	10	47	7	0	0	82	18
Middle Atlantic	78,720	1	(2)	1	(2)	6	1	6	1	71	13	85	15
Central	68,538	2	(2)	7	1	38	4	15	2	30	1	92	8
Southern	94,038	1	(2)	4	(2)	16	1	14	9	50	5	85	15
Northwestern	105,333	7	1	19	1	45	4	7	2	9	5	87	13
Midwestern	108,005	3	1	14	1	39	3	13	3	12	11	81	19
Southwestern	52,308	3	(2)	8	1	17	1	18	2	45	5	91	9
Rocky Mountain	19,392	5	1	8	1	31	28	21	5	0	0	65	35
Pacific	47,382	3	1	5	(2)	28	2	24	5	22	10	82	18
Noncontiguous	496	21	0	26	0	53	0	0	0	0	0	100	0
United States	583,191	3	(2)	9	1	29	4	13	3	31	7	85	15

<sup>1</sup> Based on data reported by 5,349 farmer cooperatives of which 2,913 owned or leased trucks and 2,548 reported truck mileage. Where cooperatives operated in more than one State all their truck mileage was credited to the States where such co-ops were headquartered rather than to the States where trucks actually operated.

<sup>2</sup> Less than 0.5 percent.

## Other Publications Available

Transportation Factors in Marketing Soybeans, Cottonseed, and Their Products: 16 Selected Cooperatives, General Report 145. William H. Thompson.

Owning or Leasing of Covered Hopper Cars by Farmer Cooperatives, General Report 144. Thomas H. Camp.

Costs and Practices of Selected Cooperative in Operating Bulk-Feed Trucks, General Report 132. Thomas H. Camp.

Motortruck Operating Costs of Farmer Cooperatives, General Report 121. Thomas H. Camp.

Motortruck Operations of Farmer Cooperatives, General Report 109. William C. Bowser, Jr.

Piggyback Transportation for Pacific Northwest Cooperatives, General Report 86. William C. Bowser, Jr.

Losses in Transporting and Handling Grain by Selected Grain Marketing Cooperatives, Marketing Research Report 766. Joseph E. Rickenbacker.

Losses in Livestock in Transit in Midwestern and Western States, Marketing Research Report 247. Joseph E. Rickenbacker.

Safety-Checking Handling Practices to Reduce Livestock Losses, Information 45. Joseph E. Rickenbacker.

Safety-Checking Livestock Trucking to Reduce Loss and Damage, Information 33. Joseph E. Rickenbacker.

Safety-Checking Handling Facilities to Reduce Livestock Losses, Information 28. Joseph E. Rickenbacker.

A copy of each of these publications may be obtained upon request while a supply is available from —

Farmer Cooperative Service  
U.S. Department of Agriculture  
Washington, D.C. 20250